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This Month

Filming a Tiger Shoot

By Herford Tynes Cowling, A. S. C.

¶ An intimate story of how a camera was taken into the jungles on the back of an elephant and the royal sport of India photographed.

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LOS ANGELES

Eastern Offices 383 Madison Ave New York

June 20th, 1924

Mr. E. O. Blackburn,
Rothacker-Aller Laboratory,
5515 Melrose Ave.,
Hollywood, Calif.

Dear Mr. Blackburn:

I don't know whether it has come to your attention during the production of "Single Wives" all of the dailies were perfect in printing and timing with the exception of but four short scenes,which were reprinted. Two of these reprints were made at our request merely to compare densities for a particular purpose suggested by the action.

There were more than 600 separate and individual scenes photographed during the production of "Single Wives" and to me it stands as a very remarkable record and tribute to the efficiency of the Rothacker-Aller Laboratory that your technical staff should attain absolute perfection in results to such a degree over a period of weeks with such a number of variations in lighting and densities.

I am enclosing an order for a master print of "Single Wives" to be made before the negative is shipped to your Chicago plant, only because in handling and running the film during the time of cutting the positive print has of course become scratched and somewhat dirty, and we want a perfect and new print at the earliest possible moment for local purposes.

Our entire technical staff on "Single Wives" join in this note of appreciation so thoroughly deserved by your entire organization.

Very truly yours,

E. J. Hudson

EJH:ME

Vol. 5 JULY, 1924 No. 4

American Cinematographer

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Consolidated Studios *in* Intensive Production

M.-G.-M. Combine Busy *on* Many Productions *in* Progress *and to* Be Filmed.

Many Units Photographing *under* New Arrangement Recently Consummated.

The Metro-Goldwyn-Mayer studios have completely recovered from the excitement following the consolidation of the three organizations and the huge plant in Culver City is more active at the present time than it has been for several years, according to an announcement from Charles R. Condon, publicity director.

Seven feature companies, making big all-star specials, are now working at the studios; three more are scheduled to start within the next two weeks, and the remaining ten units will get under way very soon.

Mae Murray Finishing

Mae Murray is putting the finishing touches to "Circe," her new starring picture which Robert Z. Leonard is directing. This story was written especially for Miss Murray by Vincente Blasco Ibanez and the supporting cast includes James Kirkwood, William Haines, Charles Gerard, Thomas Ricketts, Gene Caremon and Lillian Langdon.

Seastrom Begins

Victor Seastrom started production this week on "He Who Gets Slapped," adapted by Carey Wilson from Leonid Andreyev's play. The cast for this widely discussed story includes Lon Chaney, Norma Shearer, John Gilbert, Ford Sterling, Tully Marshall, Marc McDermott, Paulette DuVal and Ruth King.

Vignola Under Way

Robert Vignola has selected Pauline Frederick, Conrad Nagel, Mae Musch, Huntly Gordon, Patterson Dial and Frank Elliott for the leading parts in "Mrs. Paramor," his first production for Metro-Goldwyn-Mayer. Actual filming of "Mrs. Paramor" was started this week. The story is by Louis Joseph Vance and Julia Crawford Ivers did the adaptation.

Ballin Starts

The first scenes of Hugo Ballin's production of "The Prairie Wife" were taken this week. Dorothy Devore, Herbert Rawlinson and Gibson Gowland have already been engaged for parts in this Arthur Stringer story and several other prominent players are to be added later.

New Dog Star

Chester Franklin is well under way with "The Silent Accuser," the novelty production which will feature Eleanor Boardman, Raymond McKee, Earl Metcalf and Peter the Great, the new dog discovery.

Vidor Near Completion

King Vidor expects to complete "His Hour," Elinor Glyn's first production for the new company, within the next week. The cast for "His Hour" includes Aileen Pringle, John Gilbert, Dale Fuller, Jacqueline Gadson, David Mir, Carrie Clark Ward, Emily Fitzroy and others.

Laurette Taylor Feature

Laurette Taylor is in the midst of "One Night in Rome," her new starring picture which Clarence G. Badger is directing. Miss Taylor does her first dramatic work before the camera in this adaptation by J. Hartley Manners' of his stage success of the same title. Her two previous pictures have been comedy dramas. She is ably supported in "One Night in Rome" by Tom Moore, Miss duPont, Alan Hale, Joseph Dowling, Warner Oland, William Humphrey, Brandon Hurst, Edna Tichenor, Eugenie Gilbert and others.

Barker Scouting Locations

Reginald Barker is in Arizona at the present time with his cameraman Percy Hilburn, exploring the country for locations to he used in his production of "The Great Divide" for Metro-Goldwyn-Mayer. Upon his return he will start casting for this famous William Vaughn Moody play which Waldemar Young is adapting for the screen.

Bell Preparing

Monta Bell is working on the continuity for "The Snob," his first production for Metro-Goldwyn-Mayer. He expects to start production in about three weeks.

von Stroheim On Location

Erich von Stroheim is taking a short vacation before starting actual plans for the filming of "The Merry Widow," in which Mae Murray will be starred. This is expected to be one of the outstanding features of the coming season and as a result all the time necessary will be taken in preparation.

Henley's Next

Hobart Henley will start work on "So This Is Marriage," an original story by Carey Wilson, within the next few weeks.

Hughes' Two Latest

Rupert Hughes is busily engaged in preparing for the filming of "What Will People Say?" and "Beauty," his two new stories for Metro-Goldwyn-Mayer production.

Niblo to Europe

Fred Niblo with his wife Enid Bennett is on his way to Europe for a short vacation. Rex Ingram is in New York resting up after his return from Tunis where "The Arab," his newest production was filmed. Marshall Neilan is in London where he is to go under the surgeon's knife. His next production will be "The Sporting Venus," by Gerald Beaumont. Frank Borzage will start on his first production starring Ramon Novarro as soon as Novarro returns from the East.

According to the present plans of Louis B. Mayer, vice-president in charge of production, and his associates Irving G. Thalberg and Harry Rapf, the Metro-Goldwyn-Mayer studios will be kept working to capacity continuously.

A treat is in store for delegates sailing on the Republic for the London convention of the Associated Advertising Clubs of the world. Members of the Chicago Women's Advertising Clubs are going to produce a burlesque motion picture the third day out.

The actors in this picture will be costumed to represent leading Chicago firms such as Marshall Field, Yellow Cab, Swift, Addressograph, etc. The great super-production will be directed by a young lady costumed to represent the Rothacker Film Company.

Filming a Tiger Shoot

By Herford Tynes Cowling, A.S.C.

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Tiger Shooting *in* India Is Privilege *that* Only Few Sportsmen May Experience

Were it not for the game shooting to be had out here in India I very much doubt if the British Government could keep the high type officers of their Military and Political Departments content to live and serve the Empire here. British military officers have always been keen sportsmen in the true sense of the word and the opportunity to make shooting trips into the hills is about the only real sport the majority can look forward to from leave to leave. Not all are so fortunate as to be stationed near good countries for this sport and few indeed are those stationed in real good tiger shooting locations.

¶ *Shooting with Elephants Very Rare Indeed.*

Shooting tigers in the long grass and jungle country of the Indian Tarai is one of the best sports I know. It is absolutely essential that elephants be used both for driving or "ringing" as it is called and to afford sufficient elevation for shooting. It would be little short of suicide to attempt "walking up" or stalking tigers on foot, in long grass or jungle country where it is impossible to see more than a few feet ahead. I have seen three elephants walk along beating the grass within five feet of a full grown tiger which was hiding in the grass and not arouse him to break cover, or even know he was there, so thick was the growth. The elephants that are used to shoot from are mounted with strong wooden "howdah's" tightly fitted and roped to their backs like a saddle. The howdah being a rectangular box-shaped affair about three feet wide, five feet long, and three feet deep, with a rather comfortable seat and padded gun rests. This makes a rather cumbersome steed and only slow progress can be made through the jungle which must be cut away by the "Mahout" or broken down by the elephant as it advances.

How the camera was mounted in a "howdah" for the shoot Herford Tynes Cowling, A. S. C., at the camera.

A number of "pads" leaving camp for scene of action

¶ *Dependent On Well Trained Elephants.*

A mahout or driver is located on the neck of each elephant, guiding the beast in a most remarkable manner either by wiggling his bare feet behind the elephant's ears in such a manner as to convey his command of speed and direction, or by banging the elephant over the head with a heavy iron spike. This spike is used to prod in cases where it is deemed necessary

Top, left· Three good ones that will prey on man or beast no more.

Top, right. A shooting "howdah" with the elephant kneeling for mounting

Right. Beating the grass for a tiger Note the heads of elephants which are being formed into a circle

to chastise the beast or incite it to quick action. It has a sharp hook on one side for more severe operations on the flaps of their ears. It is marvelout what absolute control this tiny man has over such an enormous bulky beast. With almost human intelligence and without a spoken work the elephant will interpret his signal to pull down a limb, push over a whole tree with his head and foot, or even pick up the very cudgel from the ground which the mahout has accidently dropped only to be promptly banged over the head with for some indiscretion.

¶ *An Early Respect for the Pachyderm.*

My respect for an elephant began when as a small boy in Virginia I helped to carry water for the circus elephants in return for a free pass in the "big tent." That respect has ever increased wherever I saw an elephant, whether it was roaming wild in the jungles of Africa or "piling teak" in the forests of Upper Burma. But getting back to the tiger shoot and cumbersome howdahs; it is customary to send these shooting elephants sometime in advance to the scene of a "kill" —the hunter covering the distance on "pad" elephants until near where the tiger is supposed to be hiding. A pad elephant is a fast walker, with a sort of miniature mattress fastened on its back by ropes, and used for a seat while travelling. The "pads" cover six miles an hour easily when urged, and save the hunter much time waiting for the ring to be formed.

¶ *Much Organization Required in Planning Shoot.*

Young buffalo calves are used for bait or "kills." In our camp there were seventy baits put out each night within a radius of ten miles. The natives visit the baits at daybreak sending runners to report any "kills" together with such information as to the tracks, whether leopard, tiger, or the possible number of either, as sometimes several tigers track in numbers—often a tigress with two grown cubs. The nature of the country surrounding the kill is most important and is considered in stalking out the baits. Should two kills be reported, we would take the one that seemed the most feasible for ringing; or should the reports show three or four kills to have been made, the start would be in that direction bringing two or more kills nearest to visit; while natives would be posted in trees to report the directions taken by the tiger when it

Cowling with one he bagged. It measured nine feet, ten inches and is considered a good one

Cowling en route to shoot on a "pad" which is an elephant that is used because of its speed to follow up its slower brethern sent in advance to ring the tiger.

revisits the other kills in the afternoon as they are sure to do. Much has been said by way of criticising this method of using live baits for sporting purposes. Unlike the lion, a tiger will rarely ever touch a dead bait, even leaving its own "kill" whenever suspicion is aroused. And while it is quite true that the sportsman is hunting for the pleasure of the sport, his presence is welcomed with joy by the poor harrassed natives who must anyway loose their stock to these vicious carnivora and often their lives when they try to protect their stock. When it is considered that each tiger will make a fresh "kill" every night, it is rather a saving in live stock to sacrifice one buffalo calf to get the tiger; nor do I believe that the baits ever suffer at all, but meet a quick death—one swift spring and it is all over. The tiger invariably breaks the neck of its prey by twisting the head as the body falls from the first spring. Whereever tigers abound the natives will generally offer their young buffaloes calves gladly to save their stock from all falling prey to "stripes."

After a tiger has killed at night it may or may not eat from the kill. Quite often and especially if the tiger is not hungry it will leave the kill for the next afternoon meal. More often the blood is sucked and a small portion of the "buttocks" eaten; after which the tiger will visit the nearest waterhole or stream to drink. It then seeks jungle or thick grass near by to sleep through the forenoon heat, returning almost invariably to its kill in the cool of the next late afternoon. This disposition of the cat family, not to travel far after eating a good meal unless frightened by something, and being nocturnal, sleeping throughout the day, greatly assists the hunter to locate his quarry. It is for this reason that considerable discretion as to location should be used in staking out the live baits. There has been considerable discussion as to whether or not a tiger is guided by a sense of smell in locating the bait. Some professional hunters say not; and that the tiger has no developed sense of smell. I disagree with their theory, and believe this particular branch of the cat family utilizes a sense of smell in locating its food.

¶ *Unlike Hunting Lions.*

Kills having been reported by runners and the live baits taken in for food and water, the fun then begins. Howdah and beating elephants leave camp at once while the hunters snatch a hasty breakfast and follow on the fast "pads." Generally when we arrive the tiger was already ringed. This meant that having arrived on the scene with about forty elepbants the "Subedar" in charge had formed his elephants into a complete circle around the section in which the tiger is supposed to be sleeping, and gradually close in until the ring is about a quarter of a mile in diameter. More often the tiger is "jumped" once before the guns arrive. Now here again lies a striking difference between the lion and the tiger; once disturbed a lion will be "on his way." He might have to fight his way out—but out he will come and on to the next county at no little speed. But a tiger believes in hiding and trying to elude his pursuers by keeping very quiet. Therein lies his downfall, for were it not for this peculiarity it would be practically impossible to hunt tigers in the long grass, tiger-infested parts of India. When a ring is drawn the hunters are transferred from "pads" to shooting howdahs while the grass in front of each "gun" is trampled down to afford a clearer view. Two or three tuskers are sent into the ring to walk around and virtually beat the tiger out. There may be two or three tigers in the ring, or a leopard, and always no end of small game like wild pig, deer, and sometimes bear but no shooting is done except at the leopards and tigers; everyone holding fire for the prize game. When the tiger bas been thoroughly disturbed and is convinced that the hunter knows it is there, it breaks cover with a roar rushing the circle, looking for a chance to get through the line, and is located by the moving grass, while it travels at no little speed.

¶ *Snap Shooting.*

The elephants are seldom less than thirty feet apart unless it is an unusually close ring so the tiger has plenty of chance to break throug, but is seldom seen more than 20 yards in advance of shooting. We had five guns and lost only one tiger, which loss was due to thick jungle, and inability to ring the tiger again. When the tiger breaks through, the hunter has to depend on "snap" shooting. Elephants will seldom stand still, especially if the break is near and with the twisting, turning and trumpeting of your mount it requires quick shooting to stop a tiger that breaks directly in front.

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William [Daddy] Paley Crosses Great Divide

Dean *of* Cinematographers Goes *to* Rest After Eventful Career *in the* Cinema.

Paley Early Associated *with* Edison. Made Pictures *of* Spanish-American War.

William Paley

A legion of friends are mourning the death of William ("Daddy") Paley, generally recognized as the first professional motion picture cameraman in America as well as the dean of cinematographers, who passed away in Los Angeles, Saturday, May 31. Funeral services for the veteran among veterans were held at the Church of Our Mary of the Angels, Tuesday morning, elevn o'clock, June third, the Rev. Neal Dodd officiating.

Alois Heimerl, Victor Milner, William Fildew, all A. S. C. members, and brother Masons of Mr. Paley were pallbearers. Interment was in the Forest Lawn Cemetery, Glendale, California. Mr. Paley was an honorary member of the American Society of Cinematographers, having been so elected on November 14th, 1921, in recognition of his services and contributions to the cinematographic profession. "Daddy's" death leaves Thomas A. Edison as the only honorary member of the A. S. C.

William Paley was born at Boston, Lincolnshire, England, March 1, 1857. He was educated at the famous South Kensington Museum, and took his first picture when he was only ten years of age. It was a tin-type.

He left South Kensington to enter the English secret service and served two years at Scotland Yard; but America and art called him, and on October 22, 1878, he landed in New York intending to open a photographic studio, but almost immediately he joined the Automatic Photograph Company, under the management of B. J. Falk, and for several years was superintendent of the plant which he developed into the largest in the world. Among his achievements was the invention of a printing and developing machine with a capacity of 100,000 finished cabinet size photographs every ten hours, and the machine ran to capacity production daily for years, the output being contracted for by the American Tobacco Company and other large concerns, which gave them away as prizes.

It was not until 1892 that Mr. Paley began to experiment with motion pictures. He was the first man in America to take an interest in the investigation of the French and English pioneers along these lines, and by 1894 he had perfected a motion camera which turned out to be the first ever used in war or for news film service.

About this time he became acquainted with Thomas A. Edison, who had made exhaustive research along the

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Cine Camera Taking 3200 Pictures *Per* Minute

Progress *in* Sending Motion Pictures *by* Radio

From Transactions, Society *of* Motion Picture Engineers

By C. Francis Jenkins

Inventor Gives Information *on* His Latest Creations.

PERHAPS the progress which has been made in the perfection of the high speed camera which the writer brought to the attention of the Society at the Buffalo Meeting, October, 1921, might be interesting to you as engineers, as it points out the unique character of the instrument now available for the study of unusually high speed motions.

Pictures are now regularly made at the rate of 3200 photographs per second, that is, 200 times standard (16 pictures per second) motion picture speed. In the study of high speed motion it is comparable to a microscope of 200 diameter power in the study of small objects. Speeds still higher are believed feasible, but perhaps not often required.

No radical modifications in the camera have been made in the past two years in order to regularly attain this high speed.

The lens carrier now contains 48 matched lenses. This matching we had to do ourselves after the lenses were received from the manufacturers. It is a tedious job, but can be done if one is patient and resourceful.

The other difficult problem was mounting them so as to get absolutely steady pictures on the screen when prints were made from the negatives. No machine shop tool was found which gave the requisite degree of accuracy, so a special method had to be worked out therefor.

The camera has been made very rugged, and is driven with a battery motor which permits carrying the camera into the field beyond the reach of city power current.

We still continue to employ a loop in the film to insure flatness at the picture exposure aperture. Friction tension is absolutely out of the question. It has been found necessary to continue the lubrication of the film, but this is easily and automatically done by the use of a small paraffine block, and requires no attention.

Subjects for study of which this camera is particularly adapted will readily suggest themselves to you. The subjects we have already photographed range from simple to more complex ones. Most of the surprises have been found in the simplest subjects.

In photographing a little girl skipping a rope, it was discovered that the loop end of the rope after it dragged under her feet accelerated much faster than any other part of the rope, so that the loop end actually reached a vertical position above her head well in advance of any other part of the rope. No plausible explanation of this has yet been proposed by any of those who have seen these pictures.

The test film made of the airplane propeller turning over 1600 R.P.M (wholly invisible to the eye, of course) was the subject that sold one of these cameras to the Air Service of a foreign nation.

Perhaps the most interesting subject was the photographing (at 3200 exposures per second) of pigeons wings when the pigeons were released from a basket. It is a classic. The wings touch both above and below the body

(Continued on page 19)

SINCE the presentation at the Atlantic City Meeting of the methods and apparatus employed in the transmission and reception of photographic images by radio, development has progressed quite satisfactorily. The quality of the reception has been raised, while the time required for the transmission of photographs has been reduced to less than a minute.

This higher degree in the quality of the picture has come from the adoption of a special lamp, made available through the belief in our ultimate success by the president of the Society of Motion Picture Engineers, Mr. L. C. Porter, for he had the lamps made for us by the General Electric Company, Harrison Lamp Works, and I feel that he believes his confidence has been justified.

A hundred lines per inch has been found quite sufficient for all classes of pictures; and fifty lines per inch adequate for most. By judicious selection of the lamp and its careful location, and the adjustment of other associate parts of the radio camera, a very satisfactory 50-line portrait can be obtained in less than half the time required by the 100-line setting.

Radio Photo Messages

The speed of message transmission by this same radiophoto process is about ten seconds per message. When a special lamp, now being developed, is available, it is believed a complete 100-word message can be sent every second. The messages will be put on a long, rather wide band, in a series of 25 messages to each band, and this moved through the sending machine, in such fashion that one complete message is sent every second. A photo-paper band at the receiving end will be provided, and synchronously moved one step every second. Upon this band the 25-group of messages will be photographed.

Japanese Characters by Radio

In this connection it might be mentioned that, for the first time in history, Chinese and Japanese messages in native characters can be transmitted by radio. Military officers stationed at the Japanese Embassy in Washington express their belief in the great value of this method for official communication by their government.

Radio Vision

Speeding up the apparatus to 16 pictures per second has given us radio vision, as a laboratory demonstration, although the few lines per inch so far attempted give us but a crude picture, a picture which is unmistakable, however.

The present method of getting the necessary speed is by mounting a series of lenses on the back of a prismatic ring.

To attain the necessary speed in simpler mechanism we are making the prismatic ring in four section to be used without the multiple lenses. This gives us twice as many lines per inch as when a double prism ring is used, and four times as many lines as with a single prism ring. I think still more prisms to each ring can be made, but this has not yet been undertaken.

(Continued on page 18)

The Editors' Lens

- - - *focused by* FOSTER GOSS

¶ What the motion picture business, as an industry, means to Los Angeles and Southern California, is indicated in the following article which appeared recently in the Illustrated Daily News, Los Angeles. The analysis is especially interesting in view of the recent declaration by Richard Rowland that forthcoming First National productions would be centered in New York City instead of in Los Angeles.

The article reads:

¶ There are many well-informed analysts of Southern California affairs who in enumerating the contributing causes of Los Angeles' great increase in population during the last decade give first place to motion pictures.

¶ This is not merely because the industry, although the largest in the city, has attracted workers here, but for the reason that virtually every man, woman and child in the United States and millions in other lands have had the opportunity of observing the advantages of Los Angeles on the silver sheet.

¶ The picture-producing companies came here because of the conditions favorable to outdoor scenes and naturally chose the most picturesque settings for their works.

¶ It requires no great stretch of the imagination to connect such pictures, shown in a snow-surrounded theatre of the East or Middle West, with the great trek to Los Angeles now under way.

¶ Certainly the marvelous population growth has been co-incident with the rise of the motion picture industry here. It was in November, 1911, that the first studio was opened in Hollywood. There are now more than fifty, employing over 15,000 persons. The chamber of commerce figures for 1922 show that the producing companies had an invested capital of $30,000,000, a weekly payroll of $1,000,000 and an annual production value of $156,000,000. The production value of petroleum industry, next largest was $135,271,425.

¶ The film companies, besides working at the huge "sets" in their studios, utilize city streets and parks and travel from 50 to 500 miles away for mountain, snow and desert scenes.

AUXILIARY CAMERAS

¶ Attention is called to the fact that it is believed that the supposisition is arising that first cinematographers who are called in for an extra day's work or so are being looked upon as not being of first rank ability.

¶ Nothing could be farther from the truth. Generally, the action that is to be shot by the extra cameras is of more than ordinary importance or the extra camera would not be brought into service in the first place. Therefore, those who are in charge of sumonning the extra cameras are sure to call cinematographers of recognized reliability—and that means first class men, not those of ordinary ability.

¶ Naturally, the chief cinematographer on the production to which the extra cinematographers have been added is in command of the material that they shoot. It is his production, photographically, and he is responsible for its cinematographic phases. It is natural, also, that the cinematographer in charge will find it necessary to designate the various angles and the different ways in which he wants the action treated—but because his fellow cinematographers understand the doctrine of co-operation and efficiency enough to promptly and scrupulously carry out his orders is no indication that they themselves are not capable of handling a similar set were it their own production.

¶ As a matter of fact, the cinematographer who needs extra cameras wants the best available, even if those men are regularly assigned to other units as chief cinematographers. Conversely, the man who requires extra cinematographers, especially if he is under contract with a large organization, very often serves, in a similar capacity, some one whom he has called for extra set-up.

¶ So the auxiliary camera does not mean an inferior cinematographer. He must be first-class, else he wouldn't be entrusted with an extra—and important—set-up.

Twelve Aces *in* Cinematographic Profession

VICTOR MILNER, who gathers fresh laurels unto himself by virtue of his work in Fred Niblo's production "Thy Name Is Woman" and "The Red Lily." Vic is a hard worker.

CHARLES STUMAR, with whom giving production photographic superiority has become a habit. Stumar's Universal pictures of the past several seasons attest to this.

GEORGE BENOIT, who has such productions as Richard Walton Tully's "Omar the Tentmaker" and "The Masquerader" to attest to his never failing genius as a cinematographer.

SOL POLITO, who is being praised for his work in John Stahl's "Why Men Leave Home." Sol is shooting Hunt Stromberg's "The Siren of Seville," starring Priscilla Dean.

JOSEPH A. DUBRAY, who has innumerable artistic triumphs to his credit, not the least of which is "Kismet," starring Otis Skinner. Dubray is a deep student of the cinematographic art.

REGINALD LYONS, who turned to his first love—Vitagraph—to film J. Stuart Blackton's production of Robert W. Chambers' "Between Friends" which is soon due for general release.

Wizards *in the* Art *of the* Camera *and* Lens

LOUIS TOLHURST, who is patiently enriching the cinema and science with his remarkable delvings into the realm of the infinitesimal with his microscopic-cinematographic researches.

JOHN BOYLE, who has turned out gems of excellence like Hergisheimer's "Wild Oranges," directed by King Vidor. Boyle is a big-leaguer in the motion picture profession.

PARK RIES, who has made the legend "photographed by Park Ries" a stand-by during his long and efficient association in the filming of motion pictures from the earliest days.

BERT GLENNON, who has repeated with success after success, including George Melford's "Ebb Tide," "Java Head," etc., and more lately, Cecil B. De Mille's "The Ten Commandments."

ROBERT KURRLE, who, a master in his profession, recently finished "A Son of the Sahara" and is now busy with Carewe's "Madonna of the Streets," starring Nazimova and Milton Sills.

CHARLES VAN ENGER, who photographed "The Christian," Monta Bell's "Broadway After Dark," Lubitsch's "The Marriage Circle" and who has just finished that director's "Three Women."

EASTMAN POSITIVE FILM

With Eastman Positive Film you are sure of one factor that contributes to each picture's success—you know that the positive carries through to the screen the photographic quality of the negative.

Look in the film margin for the *black* lettered identification, "Eastman" "Kodak."

EASTMAN KODAK COMPANY
ROCHESTER, N. Y.

Taxing Tools

While apparently little or nothing has been done in Washington to alleviate the tax on cameras and lenses, the cinematographers' interest in the matter has not been confined to Hollywood production quarters but has extended half-way around the world as indicated by a copy of a letter which, just received by the American Society of Cinematographers, was sent from Bombay by Herford Tynes Cowling, A. S. C., to the chairman of the Ways and Means Committee.

The CHAIRMAN *of the* WAYS *and* MEANS COMMITTEE,
HOUSE OF REPRESENTATIVES,
WASHINGTON, D. C.

Dear Sir:

Please permit me to call your attention to the existing War Tax on Professional Photographic Cameras and Lenses which are of American or Foreign manufacture. I am particularly interested in calling to your attention the tax on moving picture cameras which are used almost exclusively for professional work. This tax is a burden on the cinematographers which does not exist on other such Professional workers and certainly should be repealed.

When the moving picture Camera is taxed, a tool of trade and direct means of making a living is taxed. To tax the purchase of a moving picture camera for professional use is much the same as taxing a Carpenter on his tools, a Stenographer on his typewriter or a Surveyor on his compass. Like the Engineer, the dentist or the doctor, a Cinematographer must purchase his own "tools" if he is to hold his clients.

At the same time, when this law was passed there was no existing organization of the American Cinematographers to give their attention to this matter. We have now an organization known as The American Society of Cinematographers; we recently passed a resolution requesting the repeal of this tax of which you are probably cognizant.

I suggest that an amendment be made to this law which will repeal the burden on our tool of trade and at the same time not remove the tax on a luxury.

I sincerely trust that your Committee will give this matter due consideration.

Yours faithfully,

H. T. COWLING.

Address—in care Messrs. Kodak Limited, "Hornby Road" Bombay.

Imagine what a job it was with my camera mounted on the tripod, set up in a howdah on the back of an elephant. I could maintain a fair level for filming the operations of ringing etc. but as soon as my elephant located the tiger, which was always before I did, he started turning and twisting. One moment I had the moving grass on the finder, and the next I would be "shooting" directly up to the sky. During the last part of the shoot they gave me an old elephant that was totally blind, with which I had considerably more luck.

When a tiger once breaks the ring whether hit or not it will travel about two or three hundred yards and then lie low again. A number of the elephants from opposite sides break away and immediately start ringing him again, while the shoot continues in the same ring to see if there are more tigers. Once we had three rings going at the same time, each with a good tiger inclosed and we got them all. It was a regular three ring circus full of fun and excitement.

¶ *Not Without Its Danger.*

As to the element of danger, it is small. I actually believe that in this kind of shooting there is infinitely more danger of being shot by a fellow "shootist"on the opposite side of the ring, or a ricochet bullet from a stone than there is of a tiger climbing into one's howdah. One tiger in our shoot did attempt to get on top of a small pad elephant and almost succeeded without even mauling the elephant. But cases have been known where the

FILMING A TIGER SHOOT

(Continued from page 7)

tiger when wounded would attempt to reach the hunter's howdah. In shooting from a moving elephant there is always a chance that the elephant will move or twist sufficiently quick to throw the gun up, even though the man behind takes every precaution. There is more danger in shooting a heavy double barrel Express gun than a rifle. Once the safety is off the gun both barrels are free. The elephant always gives a start sometimes a violent jerk following the discharge of a heavy gun so near his head. To upset the shooters' balance might easily cause the remaining loaded barrel to be discharged in any direction, while with a rifle it is necessary to operate the bolt after each shot. While not so quick for a second shot as the duplex barrel arm it is far safer as it requires that the shooter regain his equilibrium.

I have never heard of a man being so shot, but I was told of an elephant which was killed by a gun so discharged on the opposite side of the ring. Most of my time was occupied filming the whole affair, following the ever changing positions of the rings over all of which I had no control, and looking for good positions and trying to determine where the tiger would break. In this I do not mind admitting that I often chose the same side of the ring as that taken by the least experienced "guns" and for this I had my own reason.

¶ *Cinematographer Not Popular with Sportsmen.*

The movie man is rated as a decided nuisance by most all sportsmen that are shooting: chiefly because he usually pesters them to desperation. The professional hunters in Africa hate the camera, and I am told will double their charges if a movie camera is to accompany the shoot. Of course, the cinematographer wants good pictures, realistic and even dramatic pictures if he can get them, staged or otherwise; he is often inclined to want the ring reformed for close-up "cutins" of the "mighty hunters" shooting. Or to even ask that the whole cavalcade be stopped while he "sets up" on the other side of the river for the "victorious return" always when the hunters are all anxious for camp and tea. He is the bane of the native skinner's existance, who want to get on with their work rather than sling the dead tigers on elephants and take them across the river "for a picture." They argue that they can skin the animals on this side of the river as well as the other side and the Sahib ought to know it. Yet perseverance and a smile will accomplish much, especially when backed up with a "jingle of the guinea that soothes the hurt that honour feels." There is another method of tiger shooting practised in the central provinces where elephants are not available. There "Mechans" are built in trees, but it is slow sport and does not compare with the ringing method for fun and excitement nor is it accompanied by any more danger.

WILLIAM ("DADDY") PALEY CROSSES GREAT DIVIDE

(Continued from page 8)

original lines, and who had already perfected the famous Edison's Kinetoscope.

The first picture ever made by Edison for exhibition purposes was a boxing match between the famous Billy Edwards and Arthur Chambers. It was filmed in five reels of 50 feet each and was a real triumph of the cinema art as it was in those days. This picture created the first big sensation in the amusement world, and forecast definitely the possibilities and popularity and importance of the motion picture as an entertainment medium.

Mr. Paley's camera was so much in demand that he could not begin to fill the engagements offered him. He worked in and around New York, Washington, Philadelphia, photographing all classes of subjects, until the U. S. warship, Maine, was blown up in Havana harbor. At this time he was at Yale University filming the winter sports of the students. Thomas A. Edison wired him to go to Havana to make news features, and he accepted, remaining there until Consul General Fitzhugh Lee left his post to return to Washington, war between the United States and Spain being then a certainty.

When the first U. S. expeditionary forces sailed for Cuba, Paley was with them aboard the hospital ship, Olivette, formerly of the Plant Line, embarking at Tampa.

At this time Daddy Paley stood six feet one in his hose and weighed 335 pounds. He was the biggest man in the expedition except the comander-in-chief, William R. Shafter, who weighed 355 pounds, but was not so tall as Paley. He reported to Shafter at Tampa, and because of the fellowship that naturally exists between men of large displacement, the two mammoths of the Yankee expedition at once became fast friends, and Paley was given every facility to pursue his work.

In those days photographic equipment was not so handy as it is now, and Paley had his troubles with his heavy loads, rough roads, rains, mud, heat, mosquitos, snipers, yellow fever and bad food and water. From General Shafter and his staff down to the mule drivers Paley had the entire army and navy with him, but everybody was

so busy with his own troubles and Paley's work was so technical, that he had to depend largely upon himself.

He got a lot of good stuff around Baiquiri, where Shafter landed, but didn't get any "action" stuff until that fatal day at Las Quasimas, where the Rough Riders first went into action and where Hamilton Fish, Lieutenant Tiffany and Captain Capron were killed. This fight was in the brush, an ambuscade in fact, and Paley's film showed for the most part but puffs of smoke where the fighting was hottest. He got shots of Wood, Roosevelt and others going into action, but once in the undergrowth it was impossible to follow the men.

Just before the battle of San Juan he was at Shafter's headquarters one morning filming some camp stuff when a negro courier rode up with a message for the general. As the courier, who was an alert, bright young fellow, stood at attention before the general and his staff he was seen to be restless, and his eyes shot many rapid glances far away to his left. An aide quickly noticed the courier's unrest and questioned him.

"Something the matter?" inquired the aide.

"Yes,sah."

"Speak."

"Ah sees a sha'p shootah in dat cocoanut tree 'way ovah on dat hill. With you-all's p'mission, Ah'll bring him down."

Everybody looked at the cocoanut tree. It was easily 1400 yards away, and nobody could see anything in it, even with a glass. But the colored boy was positive, and General Shafter gave him leave to shoot. Paley set up his camera to train it on the tree, but before he could do it the courier shot and sure enough a second later a Spanish sharp shooter, still gripping his riflle, tumbled headlong from the tree. For this the negro boy received the thanks of the general, and later was given a medal.

Mr. Paley saw Edward Marshall, the New York newspaper correspondent, shot at Las Quasimas, and on July 1, 1898, filmed the first shot fired by Capron's Battery in the general advance on Santiago. This Captain Capron was the father of the Capron Capron killed at Las Quasimas.

In the attack on San Juan, Grimes' Battery was just going into action when Paley set up just behind the line to get the effect of the first shot. As he stood ready to crank Grimes saw him and shouted:

"Better get up there in the shade of that sugar mill. We are using black powder, and as soon as fire the enemy will get our range."

Paley took the cue and moved. The battery cut loose and was almost immediately answered by the Spaniards. A shell dropped on the exact spot where Paley had been, and at the same time a ball from a sharpshooter's rifle smashed into his camera box, passing from behind under his left arm and tearing through his coat sleeve. He jammed his finger into the hole until he could chew up some paper and plug it. When developed the film in the box was a bit fogged, but was shown with a sub-title explaining the incident.

During the next fifteen days Paley was busy getting action stuff and was in the thick of the fighting up to the surrender of the Spanish commander-in-chief, General Toral, at 9 o'clock, July 17, 1898. In the meantinme he had filmed the scene of the exchange of Richmond P. Hobson and his men for Spanish prisoners of war and on July 3, was all set up to shoot the landing of Admiral

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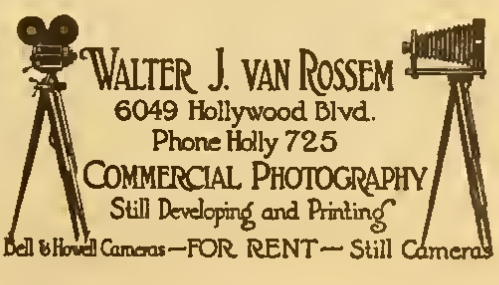

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Sampson, who was coming ashore at Siboney for a conference with General Shafter, when the guns of the Spanish and American fleets in their famous battle off Santiago caused Sampson to hurry back to the fleet. It is the great disappointment of Mr. Paley's life that he was not aboard the Brooklyn or the Texas during this fight.

After Toral's surrender, Mr Paley was stricken with yellow fever, but with the help of General Shafter he managed to get all his film safely away to the Edison Company before he surrendered to the hospital ship at Guantanamo. He was taken to New York and was desperately ill for weeks, but recovered in time to film the final scenes of the war in Washington.

While still weak with his illness, Daddy Paley was called by Edison to film the land and naval reviews in celebration of the victory and triumphant return of Admiral Dewey and, while there were other cameras on the job, he secured the finest record of the fleet passing Grant's tomb, and got a close-up of the Admiral, who bowed right into the eye of the camera.

Daddy Paley's negatives are, therefore, the only motion picture records of the Spanish-American war in existence. They are owned by the Edison Company, and are still catalogued among the educational releases of the company.

PROGRESS IN SENDING MOTION PICTURES BY RADIO

(Continued from page 9)

Radio Movies

To get movies by radio the demonstration consists in projecting a picture, with a motion picture projector, onto a ground glass screen located in the focus of the radio photo transmitter.

The necessary number of lines per second for satisfactory radio vision and radio movies can doubtless be attained. The required modulation of the light is believed feasible with the special lamp Professor D. McFarlan Moore, of the Harrison Lamp Works, is developing for us. Modulation from light to dark of the order of 160,000 per second is required for 100-lines per inch picture, and this is believed possible; and that the light can be made of sufficient intensity for home movies by radio. Refinement will give us quality just as it has in radio photography, and I think it is only a few months off.

Synchronizing Means

Synchronism for Radio Vision and Radio Movies is extremely simple, as simple as framing in ordinary motion picture projection.

Synchronism for Radio Photos is a little more complex, but is automatic, and has been worked out in such fash-

ion that it is dependable. A tuning fork of 60 beats per second is employed to control the speed of the motors. The motor at the station that is transmitting holds all receiving station forks automatically in pbase with the sending station fork. And this synchronism can be definitely ascertained by glancing at what appears to be a hand on a dial, although it is in reality a swiftly rotating member illuminated by a light rapidly turned on and off by radio signals sent out from the station which is transmitting at the time. With this apparatus we can automatically keep motors in synchronism which are separated bundreds, even thousands of miles.

Perhaps I might add that we are about aready to put into actual useful service four machines, in four stations, each machine being both a sending and receiving instrument. Pictures and messages can thus be sent both ways at the same time; and either by (1) radio, by (2) directed radio, or by (3) wire.

Light Failure Warning

It may be of passing interest to note that as a sort of by-product of our work, apparatus has been developed which will give warning at headquarters when a distant lamp or lamps go out or otherwise fail for any reason, and identify the lamp. The costs of the apparatus is very low indeed.

These warning devices are useful in railroad signal lamps; mail plane night-flying routes; and in marine lighthouse installations, some of which are in isolated locations visited but once a year perhaps.

CINE CAMERA TAKING 3200 PICTURES PER MINUTE

(Continued from page 9)

of the bird; the wing bones are bent at right angles on the back-stroke, and are fully extended, that is, they are straight out from the body, on the forward-stroke; and the movement of the feathers show a pressure at the tip of the wing far greater than was suspected, and probably accounts for the airplane accidents in which crashes have occurred because of the loss of an aileron.

The quality of the negatives has now reached a point quite creditably comparable with the negatives which are intermittently moved at but a tenth to a twentieth the speed.

I think the camera is destined to prove an instrument of great value in scientific and engineering investigations, and are now avaible for the purpose.

Reggie Lyons, A. S. C., has annexed another foreign car to his string. What will the next one be, Reg?

Jackson J. Rose, A. S. C., has finished photographing two Universal productions directed by Arthur Rosson.

Robert Kurrle, A. S. C., is photographing Edwin Carewe's First National production, "Madonna of the Streets." Nazimova and Milton Sills lead the cast.

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Circular H-u suggests how to solve the problem of poorly lighted interiors. Ask for a copy

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S. M. P. E. Holds Spring Meeting; Numerous Papers Read

The Spring meeting of the Society of Motion Picture Engineers, held at Lakewood Farm Inn, Roscoe, N. Y., brought forth a schedule of well treated papers on cinematographic and scientific subjects of interest to all in the technical and production end of the film industry.

A substantial attendance at the S. M. P. E. meeting was reported, with a well arranged and diversified program to amuse members during the time that they were not in convention assembled.

The papers presented included "The Progress of Arc Projection Efficiency" by P. R. Bassett of the Sperry Gyroscope Company; "Miniature for Motion Pictures" by J. A. Ball; "Stereoscopy and its Possibilities in Projection" by Dr. H. Kellner; "Colored Glasses for Stage Illumination" by H. P. Gage of the Corning Glass Works; "A Method of Comparing Definitions of Projection Lenses" by S. C. Rogers; "Constant Current and Constant Potential Generators for Motion Picture Projection Arcs" by A. M. Candy; "The Effect of Humidity Upon Photographic Speed" by F. F. Renwick; "The Straight Line Developing Machine" by R. C. Hubbard; "Difficulties Encountered in the Standardization of Theatre Screen and Illumination" by F. H. Richardson; "The Effect of Scratches on the Strength of Motion Picture Film" by Dr. Sheppard; "Requirements of the Educational and Non-Theatrical Entertainment Field" by W. W. Kincaid; "Motion Picture Projection as a Medium of Instruction" by A. G. Balcom; "The Filmo Automatic Cine Camera and Cine Projector" by J. H. McNabb; "Results Obtained with the Relay Condensery System" by Dr. Kellner; "Is The Continuous Projector Commercially Practical?" by H. Griffin and L. Bowen; "Sprocket Measurements" by W. C. Vinten; "Improvements in Motion Picture Laboratory Apparatus" by J. I. Crabtree and C. E. Ives; " Some Characteristics of Film Base" by Max Briefer; "Panoramic Motion Pictures" by G. C. Ziliotto; and "Methods of Making Motion Picture Titles" by Mr. Rupert and J. I. Crabtree.

Among those in attendance were: P. M. Abbott, P. L. C. Barbier, P. R. Bassett, George Blair, M. Briefer, D. Brown, R. S. Burnap, A. M. Beatty, S. R. Burns, Lester Bowen, G. L. Chanier, W. B. Cook, J. I. Crabtree, H. H. Cudmore, L. E. Davidson, E. J. Denison, A. C. Dick, C. E. Egeler, E. M. Flaherty, K. Flynn, J. L. Faircloth, H. P. Gage, H. Griffin, R. M. Hill, A. J. Holman, J. C. Hornstein, R. C. Hubbard, W. C. Ihnen, C. E. Ives, J. Jones, L. A. Jones, Wm. V. D. Kelley, H. Kellner, W. W. Kincaid, J. C. Kroesen, W. C. Kunzmann, W. F. Little, H. H. McNabb, J. R. Manheimer, Max Mayer, I. L. Nixon, J. A. Norling, M. W. Palmer, R. S. Peck, L. C. Porter, J. H. Powrie, F. F. Renwick, F. H. Richardson, A. C. Roebuck, S. C. Rodgers, Max Ruben, E. E. Richardson, F. M. Savage, J. A. Summers, G. A. Scanlan, J. H. Theiss, L. M. Townsend, W. C. Vinton, G. C. Ziliotto.

Synchronizing Taking *and* Camera Speeds

From Transactions, Society *of* Motion Picture Engineers

By F. H. Richardson

Facts *on* Projection *and* Standard Taking Speed.

I BELIEVE we all will agree that when a moving object has been photographed for reproduction as a motion picture, if it is to appear upon the screen in all respects as the original object appeared to the "eye" of the camera, the speed of its projection must be exactly the same as was the speed of its taking—the same as the camera speed when it was "shot." We will, I think, all heartily agree that any departure from perfect synchronization of the taking, or camera speed, and the speed of reproduction, or projection, must, and inevitably will cause the moving object to appear differently upon the screen than it appeared to and was photographed by the camera, hence under such conditions the spectator cannot and will not see the moving objects as the camera "saw" it.

We, therefore, concluded that for best effect it is always necessary that there be perfect synchronization between taking and projection speed, but this conclusion would, in some cases, lead us astray. It is a fact well recognized by projectionists and theatre managers that some isolated scenes may be considerably improved by a projection speed well in advance of taking speed. Such scenes are, for the most part, racing and similar scenes, where the original action, while perfectly natural, still appears more exciting and better to the theatre audience if the action be made more rapid, provided the increase be not sufficient to make it appear unnatural.

It is precisely this point which makes it difficult to convince projectionists and theatre managers that synchronization of taking and projection speeds should prevail. The instant we admit that these gentlemen should be permitted to speed up projection over taking speed, we open wide the gates for abuse, because it is then left to the judgment of every one of the many thousands of theatre managers and projectionists as to what scenes should be over-speeded and how much the speed should be accelerated. A moment of thought should convince you that this is a very serious matter indeed.

The producer is presumed to employ directors and cameramen of recognized ability, upon whose judgment we may depend in the matter of what speed of action will produce the best possible effect. These gentlemen usually carefully rehearse each scene, often at very large expense, in order that the artistic effect may be exactly right. I have myself watched the "shooting" of a scene with a sharp command to "cut" when it was half through because some actor had moved too fast or too slowly and thus marred the artistic effect, causing a re-take. I mention this as indicating the importance directors place on the matter of speed, particularly in certain scenes, or scenes of a certain class.

After taking, the various scenes of a production are carefully scrutinized by other men, who are supposed to be expert in the matter of judging effects, before the positive prints are finally made and the production released for theatrical use.

Surely, therefore, we have the right to presume that, except for news reels, events over which the agnts of the producer can have no control in the matter of speed, such as races of various sorts, and productions where freak speeds are purposely used, all moving objects in any production are "shot" at the speed of action best calculated to produce maximum artistic effect, hence if the projection speed be perfectly synchronized with camera speed, the action will be exactly what it should be, and the production will, insofar as action is concerned, have one hundred per cent value to all those who witness its reproduction upon a screen.

But right there comes the rub. Except for a comparatively every few super productions, put out by a certain producer, which were accompanied by a cue sheet instructing the projectionist at exactly what projection speed each scene should be run, the projectionist has never had and does not now have any guide to correct projection speed except insofar as he is able to judge of it by watching the action of each individual scene.

The motion picture industry has, ever since its inception, labored under the handicap of having its finished product interpreted upon the screen by men who were either possessed of no manner of competency entitling them to undertake so important a function, or who labored under the limitations of a time schedule which took from them all power to interpret the action of the various scenes correctly. The abuses in this direction have been so glaring that one state, Colorado, enacted a statute forbidding the projection of any motion picture at a greater rate than eighty feet of film per second. That law still is in force.

To judge of what speed of action will produce the highest and best artistic effect, one must be equipped with very real skill and training. Even with adequate skill and training it would very often be impossihle to judge of the best possible effect until one had projected and watched a scene several times at different speeds. That this is true is proven by the fact that directors very often rehearse scenes several times, changing the speed of action to get the best effect.

And now, gentlemen, I ask you to consider what percentage of motion picture projectionists have sufficient skill to be intrusted with so very important a business as this. I also ask you to consider, from your own knowledge, what percentage of projectionists have made, or are making any adequate effort to train themselves in the matter of judging action. I also ask you to consider what percentage of them are projecting under the limitations of an iron-clad time schedule, which takes from them all control of projection speed.

All this leads up to the fact that *failure to adopt some adequate means for securing the synchronization of camera and projection speed operates to place the entire finished product of the motion picture industry at the mercy of the theatre manager and projectionist, insofar as has to do with speed of action of all moving objects.*

The theatre manager may, and very often does alter the action tempo of an entire production, either by forcing the projectionist to jam through too much film in a given

"schedule" time; by not supplying enough film footage to fill up the time schedule at proper projection speed, or by direct orders to the projectionist to run at excess speed.

Very often this is carried to an extent which causes the action to appear ridiculous and farcical.

On the other hand the projectionist may sadly mar the effectiveness of many scenes by permitting the projector to pound along at set, unvarying speed, throughout a production in which the taking speed of scenes varies widely. This is, in fact, a very common souree of injury to the artistic effect of productions, the projectionist excusing it by pointing to the time schedule, which may or may not be a valid excuse, because often it would be impossible for a projectionist to gain on one scene what might be lost on another.

Camera speed is presumed to be standard—one and the same thing all the time. Cameramen vehemently declare it to be so, or at least tbat the possible variations are very slight. On the other hand projectionists, to whom the task of reproducing the scenes before the public is intrusted, are a unit in declaring this to be untrue.

Many of our best projectionists are emphatic in saying that taking speed varies all the way between sixty (60) and eighty-five (85) feet per minute. Personally I am of the opinion that this is correct, with the notation that but very little "shooting" is done at so low a speed as that first named. The opinion of competent projectionists is that seventy-five (75) feet per minute is the speed most used by cameramen, though there is much variation as between seventy and eighty.

Whether it is possible to adopt and compel cameramen to use some unvarying taking speed I do not know, but certainly if it could be done, without injury in other directions, it would operate to enormously improve that which the public sees upon the screen, because we could then demand that the projector be operated at standard taking speed, and would have a cogent argument behind that demand.

When the producer, who has expended huge sums of money and tremendous effort in perfecting a production, finally looks at it in the finished state in his screening room, I wonder if he realizes that but relatively very few theatre audiences will ever see it exactly as he has seen it?

He is filled with pride as he looks upon some fine bit of acting—a death bed scene, for instance. He declares it to be a marvel of artistry, and that it will "bring tears to their eyes," which would be quite true did the audiences see it as he has seen it.

But the finely acted scene will bring no tears to the eyes of the vast majority of audiences. To some it may actually bring lapghter, because by the speed-em-up process, brought about for any one of the reasons before named, the actors who portrayed the scene so artistically before the camera will be transformed into swif-moving travesties on the original. Instead of the daughter giving her dying mother a fond embrace and a loving kiss, she is made literally to grab the mother, yank her head up, dab their lips together and scuttle away as though it were a deuced nuisance and she was glad it was over witb. The whole effect the director has striven so hard to attain is entirely altered and utterly ruined.

I have asked before, and I again ask, does the producer really take the slightest interest in the way his productions are placed before the public? It would seem not. Certainly he well knows that they are literally robbed of all artistic beauty in thousands of theatres every day, for no other reason that failure to project them at camera speed, and thus duplicate the original action. For some reason, which the ordinary mind cannot comprehend, the producer does not seem to be in any way interested in this manhandling of his product, or if he is he does not make even the smallest protest. In all the great mass of printed and written advertising matter sent out by producers, I have never seen one word of comment on the importanee of projecting the picture at taking speed. In all the many articles in various trade and other papers, which emanated from the offices of producers, I have yet to find one single word of protest against the ruinous process of overspeeding or a word of caution as to the importance of synchronization of taking and projection speed. In all the thousands of articles sent out by producers for publication in newspapers and magazines, for general consumption by the public, I have yet to see a single word tending to educate the public to demand 100 percent value for its money by insisting on proper projection speed. There is never a word heard in any of the many speeches made by producers and their representatives upon the importance of so projecting the picture that it will duplicate the original scene in action.

The Projection Department I have had the honor of conducting in one of the trade papers for twelve years past has, during all that time, literally battled against the OUTRAGE of over-speeding. During all that time it has not had even the slightest aid or encouragement from from any producer of motion pictures in this matter, except that Wm. V. D. Kelley did once say to me: "The work you are doing in fighting over-speeding is good." That is absolutely all the apparent interest producers have taken in my attempt to supress this great evil.

Trade papers are not secret affairs. The producers all know of them, and are not at all slow to utilize their columns to the full extent of their ability for setting forth the excellence of their product, but when it comes to utilizing those same columns to tell the exhibitor how much finer those same products would appear to the public if they were projected at proper speed, they are very conspicuous by their silence.

Frankly I am unable to understand this. If the producer does not care how his product appears before its buyer—the public, then why in the name of Heaven does he employ high grade talent all through the process of its making, and guard every step in the making with utmost care. One would suppose that when such great pains are taken to rehearse scenes sometimes a dozen times, until they appear exactly as the director desires them to appear, both the director and the producer would strongly object to anything in the way of an almost universal practice which tends to change the action and lower the quality of what has been so carefully worked out, down to its smallest detail.

One would even suppose that the various "stars," and actors of other grade, would strongly object to being made to appear before the public as animated jumping jacks, by having their actions speeded up to, in extreme cases, pretty nearly double what it really was. But in all my

experience I have never known of any actor, of high or low grade, voicing even the smallest objection.

I once sat next to one of the really big stars in a theatre. She was watching one of her own productions, without the knowledge of any one that she was present. The "schedule" was about right for seven reels, but the projectionist was given eight reels all rather overloaded, and one somewhat less than loaded, which he must jam through in the allotted time. The 'star' was made to move around like mad, and the whole of her work was ruined. I fully expected her to be indignant, but not so. She merely giggled and remarked: "Isn't it awful the way they run them?" It did not seem to occur to her that she could possibly do anything to stop such butchery of her work, by calling the attention of the public to it in some of the many "interviews" printed in newspapers as coming from her.

What is needed is a campaign on the part of producers, stars and all those who have influence, to educate not only the projectionist and the exhibitor, but the public as well on the bad effect of non-synchronism of taking and projection speed. Once let the public understand the matter and the reason behind the ridiculously fast moving actors, and it will call a halt.

I am sure all trade papers would be glad to lend every assistance possible, and a few articles in the Sunday editions and magazines on the subject would cost nothing but the effort of preparing and presenting them. This would help to advise the puhlic on the injury done to productions by the exhibitor and projectionist who fail to project at taking speed, or approximately so.

The real solution of course is to compel a really unvarying standard camera speed, and then so construct projectors that they will operate at that speed only, but this is, I fear, impracticable. I even am not sure that it would, for several reasons, be desirable, hut surely variations in camera speed can, with proper effort, be confined within close limits, and this would help very greatly.

In this connection allow me to once more call your attention to the fact that under present conditions of high screen brilliancy in a very large percentage of our high grade theatres, and in some which are not high grade, it is entirely impossible to synchronize projection speed with any camera speed less than seventy (70) feet of film per minute, and sixty-five (65) is an absolute minimum. In fact in very many theatres seventy (70) feet is the minimum projection speed possible without flicker, especially on the lighter (less dense) scenes.

It is quite true that the high grade, competent projectionist, who thoroughly understands the optical train of his projector, and how to get the best possible optical balance in his projector rotating shutter, can project at a considerably lower speed, before encountering flicker, than can the incompetent projectionist who has the same screen brilliancy, but who has no knowledge beyond the mere operation of the projector mechanism.

However, since we must perforce deal with both classes, it follows that until exhibitors wake up to the importance of high grade skill and knowledge in their projection rooms, we must, for the best effect, adopt a taking speed enabling the low grade projectionist to project at that speed without flicker.

As the matter now lies the projectionists of pretty nearly all high grade theatres would be compelled to over-speed any production taken at the speed of sixty per minute, which is the standard adopted by this society, since at sixty per minute there would be a terrible flicker, even with the best possible condition as to optical balance of the projector rotating shutter. As a matter of fact the screen brilliancy in some theatres is such that productions having many light scenes must be projected at close to eighty feet per minute in order to avoid flicker.

You may therefore see, gentlemen, that while the standard of taking and projection speed adopted by this society may have been quite correct when it was adopted, due to increased screen brilliancy it is now entirely too low, and should be changed.

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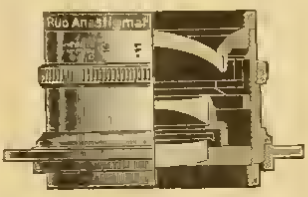
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On *the* Uniform Development *of* Cine Film

From Transactions, Society *of* Motion Picture Engineers

By F. F. Renwick

A Preliminary Note *on* Study *of* Development.

BEING well aware of the difficulty of securing uniform development of photographic plates by any of the ordinary methods of dish or tank development, it occurred to the writer that it would be interesting to make a study of the degree of uniformity of development usual in the commercial development of motion picture film.

For this purpose, it was proposed to employ motion picture film free from irregularities in the thickness of its sensitive coating, to expose a number of lengths of such film as uniformly as possible to a moderately wide range of light intensities, and to have them developed in several different commercial laboratories

In the attempt to produce uniform exposures over each picture area, one of the regular commercial printing machines was first employed. It was found, however, that the illumination was far too uneven for our purpose, and this leads me to suggest that users of motion picture printing machines will be well advised to examine carefully from time to time the uniformity of the illumination by which they are printing their pictures, since it is evident that it is very easy to spoil the beautiful gradation of a picture by printing it unevenly.

In the experiments upon which the following short note is based, irregularities due to lack of uniformity of the exposure over the area of a single picture were reduced to a small amount by exposing the film in a kinema camera to a sheet of white blotting paper, uniformly illuminated by a blank of mercury vapor lamps, while lack of uniformity in coating is doubtless very small in amount owing to the use of commercial motion picture film knowledge excellence. I may say, however, that in prosecuting this work further, it will be desirable to adopt a different method of exposing the film, since the camera method employed in these experiments did not prove entirely satisfactory.

The small irregularities arising from this cause have however, been eliminated by the method of computation adopted. Lengths of film 200 feet long were exposed in the manner mentioned at four different lens apertures and were then sent to a number of different laboratories engaged in the commercial development of motion picture film for development.

On their return, ten picture areas at each exposure were carefully measured in a photometer at five different places on each picture area (three lying along the center line of the film, the other two being at the middle of the sides of each picture area).

The results were grouped to determine the average density for each location and the average departures from these mean values were then calculated. The same procedure was, of course, adopted for each of the four differently exposed areas. Results obtained from seven separate rolls of film are dealt with in this note. In this way, it was found that although there was evidence of a small lack of uniformity in the lighting of the picture areas, this was insufficient to render doubtful the conclusions to be drawn later concerning development By considering the average deviations in density at each spot separately, we have determined the liabilties to fluctuation in density over each portion of the picture apart from the above mentioned small irregularities due to exposure. Our results do not disclose any regular tendency towards larger fluctuations of density at one part than another of each picture area due to irregularities in development and drying conditions, and this is true whether the film had been developed in a machine or on racks by the ordinary tank system, but I should not like it to be inferred that irregularities of this kind cannot happen, since in certain circumstances, I think they are likely to arise.

Comparing the average departures from the mean density values on films developed in tanks as compared with those developed by machine, there are, however, very considerable differences. While in the best machine-developed film examined, the average deviations due to development did not exceed .01 for low densities and only a little over .02 on moderately high densities (the extreme ranges being from four to five times these figures), and while another machine-developed film gave an average deviation between .02 and .03 and a range of about .10 for all four exposures, it is apparently not at all uncommon for tank development to give rise to average deviations from the mean value, rising rapidly from .02 for the lowest densities up to .08 for moderate to high densities, with a total range of four or five times these amounts. Development conditions liable to lead to such irregularities as these can only be regarded as very unsatisfactory.

Our experiments are not sufficiently numerous to enable me to say that the favorable figures given above are truly representative of machine development, but as far as they go, they certainly favor the use of machines for development of motion picture film in preference to racks and tanks as frequently employed. On the other hand, we have evidence that a high degree of uniformity is obtainable and is being attained on racks in tanks in some laboratories, for two of the tank-developed films measured were not seriously inferior in uniformity of development to the machine-developed films. One of these tank-developed films showed a very small progressive rise in average deviation from less than .03 to slightly over .04, while the other, covering the same range of densities (.8 to 2.5), showed a drop in the average deviation value from a little over 0 4 to slightly over .02. These results differ so strikingly from the other tank-developed specimens examined that it seems highly desirable to investigate the influence of the composition and concentration of developers upon the liability to irregularities in density of films developed in them.

It is proposed to follow up the work along these lines for it is obviously important to film users to minimize irregularities of density due to the developer and its method of application as far as possible, since such irregularities, by falsifying the gradation, must seriously impair the pictorial quality of a film just as surely as does uneven lighting in the printing or projection processes.

George Meehan, A. S. C., is filming a Jim Parrott comedy at the Fox studios.

* * *

W. S. Smith, Jr., is in charge of the cinematography on the ten-reel Vitagraph feature, "Captain Blood," based on a story of the Spanish Main in the seventeenth and eighteenth centuries. J. Warren Kerrigan and Jean Paige lead the cast. For two months prior to the beginning of filming the latter part of May, Smith was engaged in intensely interesting research work to obtain data on arms, costumes, etc August 30th is scheduled to be the finish date

* * *

Al Gilks, A. S. C., has finished the filming of "The Female," a Sam Wood production starring Betty Compson for Paramount.

* * *

Stephen S. Norton, A. S. C., has completed the photographing of the first of a series of intricate comedy dramas filmed at Universal City, Jack Dawn directing. The cinematography in the Dawn vehicle was of the most intricate nature, calling for much stop work and trick stuff. Norton finished his big task without a single re-take, however.

* * *

William Marshall, A. S. C., is shooting Richard Talmadge in a Carlos production, James Horne directing. The feature is a melo-drama with a great deal of whirlwind action so that Billy has plenty of thrills from start to finish.

* * *

Dan Clark, A. S. C., has completed camera work on "The Love Bandit," Tom Mix's latest feature for Fox. Esther Ralson led the support and Jack Conway directed.

* * *

John Arnold, A. S. C., has finished filming the first production made under the Metro-Goldwyn-Mayer merger —"Free Love," with an all-star cast directed by Hobart Henley.

* * *

Ernest Haller, A S. C., is photographing "Empty Hearts," a six-reel feature for B. Verschleiser Productions. The cast includes John Bowers, Clara Bow and Charlie Murray, Al Santell directing.

* * *

John S. Stumar, A. S. C , has finished the cinematography on "Wine," a Universal society drama, directed by Louis Gasnier, with Clara Bow, Myrtle Steadman, Huntley Gordon, Robert Agnew, Walter Long and Forrest Stanley in the cast.

Stumar has already begun work on "Tornado," another Universal production, directed by King Baggott and starring House Peters.

* * *

H. Lyman Broening, A. S. C., has left for Klamath Falls, Oregon, to join the Mal Saint Clair company which is doing a Rin-tin-tin dog feature for Warner Bros.

Henry Cronjager, A S. C., is photographing Bebe Daniels and Richard Dix in a Paramount production being made in New York City. Exteriors were filmed at Nassau.

* * *

Tony Gaudio, A S. C., is filming the latest Norma Talmadge feature which Sidney Olcott is directing.

* * *

Henry Sharp, A. S. C , has finished filming "Tiger Thompson," a Hunt Stromberg production starring Harry Carey and directed by Reaves Eason.

* * *

Jackson J. Rose, A. S. C., has finished filming the Universal production, "The Measure of a Man," directed by Arthur Rosson and starring William Desmond. Many beautiful scenes were made at Big Bear Lake.

Mary McAlister, who played the lead in this production, was photographed by Rose when she was playing baby parts as "Baby McAlister" at the old Essanay company in the pioneer days. Rose must have made 50 pictures with the child whom he was afterwards to photograph as a leading lady. The role in "The Measure of a Man" was one of the first in which she played as lead. Judging the future by the past, Rose believes that Miss McAlister is one of the coming stars.

* * *

Karl Brown, A. S. C., has returned from a location trip to Vancouver, B. C., for scenes for the forthcoming James Cruze production for Paramount.

* * *

Due to the ingenuity of John Arnold, A. S. C., KFI, a Los Angeles broadcasting station, one of the largest and most powerful on the Pacific Coast, is being shown in important scenes of "The Beauty Prize," one of Viola Dana's last Metro starring pictures, an adaptation of a story by Nina Wilcox Putnam.

It is the first time a real broadcasting studio has been used in a screen production, it is said.

The station is located on the top floor of a downtown building. Director Lloyd Ingraham had first planned to have a reproduction of the station made on one of the stages at the Metro Studio. Then he consulted with John Arnold, the cinematographer, and together they visited KFI for the purpose of surveying the possibilities of filming the scenes there.

Arnold decided that studio lights and other electrical equipment could be set up at KFI. The result was that Miss Dana, Pat O'Malley, who was the leading male role opposite her, and other players, as well as technical members of the production unit visited the broadcasting station late one night after the regular program had been delivered. Three nights were devoted to the making of the radio scenes, all with A. F. Kales of KFI acting as technical advisor.

The result of the trouble and inconvenience to which the director subjected his company and himself was technical perfection in a matter with which more than half the nation is expertly familiar.

RELEASES

May 23, 1924 to June 15, 1924

TITLE	PHOTOGRAPHED BY
Borrowed Husbands	Steve Smith, Jr., **member A. S. C.**
The Danger Line	Not Credited
Daring Youth	Charles Van Enger, **member A. S. C.**
The Chechahcos	Raymond K. Johnson and Herbert H. Brownell
Lily of the Alley	Not Credited
Sword of Valor	Roland Price
The Life of Dante	Not Credited
After a Million	Not Credited
Midnight Blues	George Meehan, **member A. S. C.**
Why Men Leave Home	Sol Polito, **member A. S. C.**
Men	Alvin Wyckoff
The Signal Tower	Ben Reynolds
Dorothy Vernon of Haddon Hall	Charles Rosher, **member A. S. C.**
Don't Doubt Your Husband	John Arnold, **member A. S. C.**
Napoleon and Josephine	Sydney Blythe
The Woman on the Jury	James C. Van Trees, **member A. S. C.**
Broadway After Dark	Charles Van Enger, **member A. S. C.**
Spirit of theU. S. A.	Ross Fisher, **member A. S. C.** and Leon Eycke
The Masked Dancer	Chas. Davis and Neil Sullivan
The Reckless Age	William Fildew, **member A. S. C.**
The Fire Patrol	Silvano Balboni
A Son of the Sahara	Robert Kurrle, **member A. S. C.**
Hold Your Breath	Gus Peterson and Alex Phillips
Code of the Sea	C. E. Schoenbaum
The Turmoil	Charles Stumar, **member A. S. C.**
Why Get Married?	Georges Benoit, **member A. S. C.**
The Dangerous Coward	Ross Fisher, **member A. S. C.**
When A Girl Loves	Alvin Wycoff
The Gaiety Girl	Charles Stumar, **member A. S. C.**
The Fighting American	Harry Perry, **member A. S. C.**
High Speed	Merritt Gersted
Miami	Dal Clawson
The Marriage Cheat	Henry Sharp, **member A. S. C.**
The Family Secret	John Stumar, **member A. S. C.**
The Sea Hawk	Norbert Brodin, **member A. S. C.**
The Good Bad Boy	Not Credited
Broadway or Bust	Virgil Miller
Wandering Husbands	Ray June
The Bedroom Window	L. Guy Wilky, **member A. S. C.**
There's Millions In It	Not Credited
The Back Trail	Harry Neumann
The White Moth	Arthur Todd
In Fast Company	Wm. Marshall, **member A. S. C.**
Western Luck	Joseph Brotherton, **member A. S. C.**
Those Who Dance	Paul Perry, **member A. S. C.**
Daughters of Pleasure	Charles Van Enger, **member A. S. C.**

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